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ABSTRACT

This study attempted to determine the factors and procedures used by school administrators and school boards in Bucks and Montgomery Counties, Pennsylvania, when school sites were selected and developed; as well as to find the extent to which these sites were being utilized by school and community groups. Specifically, the study strove to determine which of 25 preestablished site selection factors an administrator uses when considering a site for purchase; to what extent (1) educational specifications concerning future site utilization are written and implemented, (2) local citizens participate as resource people in site selection and development, (3) plans are written for site development, and (4) various sources of funds for initial site development are used; and to what extent sites are used for the daily instructional program, school recreational and athletic programs, and by the community. Two questionnaires were devised to gather information for the research. Sites included in the study were identified by a thorough search of all nontaxable property records located in each county court house. Site selection factors found to be most important include location, accessibility, availability, size, educational adaptability, utilities available, cost of land, site development, public services, and topography. (Author/DN)

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A STUDY OF THE FACTORS AND PROCEDURES USED FOR SCHOOL SITE SELECTION, SITE DEVELOPMENT, AND SITE UTILIZATION

A Dissertation Abstract

Presented to

the Faculty of the Graduate School

Temple University

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Education

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by

William Stewart Woehr

May 1973

A STUDY OF THE FACTORS AND PROCEDURES USED FOR SCHOOL SITE SELECTION, SITE DEVELOPMENT, AND SITE UTILIZATION

William Stewart Woehr, Dissertation (Ed.D.)
Temple University, 1973

PURPOSES, POPULATION, INSTRUMENTS, AND PROCEDURES

Purposes

The purposes of this study were: (1) to determine the factors and procedures used by school administrators and school boards in Bucks and Montgomery Counties when school sites were selected and developed and (2) to find the extent to which these sites were being utilized by school and community groups.

Specifically, answers to the following questions were sought:

1. To what extent are twenty-five pre-established site selection factors for school site selection used by school boards and administrators when sites are considered for purchase?

2. To what extent are educational specifications concerning future site utilization written and implemented?

3. To what extent are local citizens, teachers, architects, landscape architects, specialists, technicians, and other personnel involved as resource persons when sites are selected?

4. To what extent are plans written for site development?

5. To what extent are various sources of funds for initial site development used?

6. To what extent are local citizens, teachers, architects, landscape architects, specialists, technicians, and other personnel involved as resource persons when sites are developed for use?

7. To what extent are sites used for the daily instructional program?

8. To what extent are sites used for school recreational and athletic programs?

9. To what extent are sites used by the community?

Population

The study was limited to public school districts located in Bucks and Montgomery Counties which are located in the suburban area of Philadelphia, Pennsylvania. There are thirteen school districts located in Bucks County and twenty-two in Montgomery County. Area vocational technical schools were not included in the study nor was one school district in Montgomery County because its board does not own any real property.

Only those school districts acquiring ground for new school construction between July 1, 1963 and December 31, 1970 were queried in regard to the factors and procedures used for site selection and development. Those schools constructed on sites identified in the initial phase of the study and opened for student occupancy prior to September 1, 1972 were considered for inclusion in the section concerning site utilization.

Of the sixty-five sites identified as being purchased during the seven and one-half year period, data were available for fifty-four (83.1 per cent) of them. It was determined that thirty-eight of these sites had school buildings constructed on them which were opened for student occupancy before September 1, 1972. Data from thirty-six (94.7 per cent)

of these schools were collected for the site utilization section of the study.

Instruments

Two questionnaires were devised to gather information for the research. One questionnaire was used to collect data concerning the selection and the development of each site. A second questionnaire was used to collect data concerning site utilization by school and community groups. The instrument concerning site selection and site development was sent to chief school administrators or board members holding office at the time of site purchase. Principals of buildings that were constructed on the sites identified in the initial phase of the study received the questionnaire concerning site utilization.

Procedures

Sites included in the study were identified by a thorough search of all non-taxable property records located in each county court house. Names and addresses of school administrators and board members holding office at the time each site was purchased were gleaned from annual school directories published by each county Intermediate Unit office.

The questionnaires were developed and validated with the help of two juries of experts. The membership of the juries consisted of board members, chief school administrators, and elementary and secondary principals who were identified as having experience in the selection, development, and utilization of school sites. Reliability of the

instruments was tested by a test-retest method. This was accomplished by interviewing ten per cent of the respondents after all questionnaires were returned. Spearman's rank-difference correlation method was used to determine the correlation of scores between the two testing situations. A high correlation proved both instruments reliable.

Treatment of the data was dependent upon the type of information obtained from the two instruments. Data were gathered for both descriptive and statistical purposes. Frequencies and percentages were calculated for the majority of data. The twenty-five factors used for site selection by school boards and administrators were rank ordered by use of a seven point Likert scale. Relationships of site selection and development procedures and the use of various persons and agencies in the selection and development of sites purchased prior to and after implementation of the Pennsylvania State Long Range Development Plan effective July 1, 1968 were examined by use of chi square. The .05 level of significance was used as the level of acceptance for each chi square analysis.

FINDINGS

A. Site Selection

1. Types of facilities proposed and actually developed on the sites.

All fifty-four sites were reported as having a specific purpose planned for them at the time of site selection. Respondents for thirty-six of these parcels reported that at least one or more buildings was

constructed on these sites during the period of this study.

It was determined that in the majority of cases, each site was developed as originally planned at the time of site selection. Although six (16.7 per cent) of the sites were not completely developed according to the original plans made at the time of site selection, only one (2.8 per cent) of the sites could be considered as being developed into something completely different from its original intent. The largest number of discrepencies in any one group of facilities originally planned and finally developed was found to be under the heading "Recreational Site." Only one (1.9 per cent) site of the fifty-four selected, was originally planned as a combination school-community recreational area, yet four (11.1 per cent) of the thirty-six sites developed, were eventually developed as school-community recreational areas.

2. The use of written educational specifications to suggest future land usage for instructional and recreational purposes.

Thirty-two (59.2 per cent) of the fifty-four school sites were reported to have educational specifications for projected site usage written during the site selection process. Further analysis indicated that seventeen (77.3 per cent) of twenty-two sites purchased after the Long Range Development Plan was effected had educational specifications written for them. Although these figures appeared to be much greater than the sixteen (50.0 per cent) of thirty-two figures reported for those sites that had written educational specifications for future site usage and were selected before the state plan was implemented, a chi

square analysis proved them to be only approaching significance.

3. Number of planning agencies cooperating with local school districts as a master plan was developed for the location of future school sites.

Some type of master planning for the location of future schools was reported as used by school districts for forty-two (77.8 per cent) of the fifty-four sites. In thirty-one (57.4 per cent) cases the local district either used a plan of its own or one developed in cooperation with local or state agencies. Township and county agencies were used by local districts to help develop master plans in seventeen (31.5 per cent) and eighteen (33.3 per cent) of the cases respectively, while the resources of state or regional agencies were used ten (18.5 per cent) times and one (1.9 per cent) time respectively. More master planning was evident with a greater number of agencies involved in the development of the master plan after implementation of the long range plan. Eleven (34.4 per cent) of the thirty-two sites selected prior to the long range plan were purchased without conformance to a master plan while only one (4.6 per cent) of the twenty-two sites selected after the plan was implemented was purchased without conformance to a master plan. Nine (40.9 per cent) of the latter sites were selected under a master plan developed with the cooperation of three or more political agencies, while only four (12.5 per cent) of the sites selected prior to the long range plan had this type of cooperative master planning in evidence. According to a chi square test, this represented a statistically significant change in procedure.

4. Basic procedure used by school boards and administrators when sites were selected.

The most common procedure used to select sites was to determine population patterns in the community which included the projection of other school sites in the community before initiating purchase or condemnation procedures. Thirty (55.5 per cent) of the school districts reported this as their procedure for determining where a new school should be located. A second procedure involving the determination of site requirements for a new school by tabulating the distribution of pupil population and then initiating purchase or condemnation procedures was used by thirteen (24.1 per cent) of the districts. Eleven (20.4 per cent) of the fifty-four sites were selected by the board determining where they thought a need for a school should be, then purchase or condemnation procedures were initiated.

Eighteen (81.8 per cent) of the twenty-two sites selected after the effective date of the state long range plan were chosen by boards determining population patterns in the community and including other projected school sites into their forecast before initiating purchase or condemnation procedures. In contrast, only twelve (37.5 per cent) of the thirty-two sites selected prior to this plan were chosen this way. These data were tested by chi square and the differences proved to be significant.

5. Personnel and agencies involved in the site selection process.

All districts reported that the school board was involved in the

decision-making process when school sites were selected. This same group also served in an advisory capacity in sixteen (29.6 per cent) cases. In all but one (98.2 per cent) instance, a school administrator also served on this committee in a decision-making or advisory capacity. The expertise of an architect was used in some capacity on thirty-seven (68.5 per cent) site selection committees. In most cases, this individual was used in an advisory capacity. The use of city, county, and/or regional planners, an engineer, the Department of Health, and the Department of Highways were reported as members of the site selection committee and were used in twenty-four or more (44.4 to 50.0 per cent) of the cases respectively. State agency planners, a real estate agent, the Department of Forests and Waters, lay citizen or community groups, a landscape architect, the Soil Conservation District, a teacher, a curriculum specialist, the local park commission, an educational consultant, the county park commision, a local politician, the Game Commission, the Fish Commission, and a student were included on a site selection committee in eighteen or less (from 33.3 to 1.9 per cent) of the cases reported. The State Park Commission was not represented on any of the site selection committees.

It was determined that fourteen (63.7 per cent) of the twenty-two districts selecting sites after the State Long Range Development Plan was implemented included seven or more persons or agencies on the site selection committee. Only thirteen (40.6 per cent) of the thirty-two selection committees established prior to the long range plan had

representation of seven or more agencies. In contrast, only one (4.5 per cent) of the site selection committees formed after implementation of this plan had two or less agencies represented while nine (28.1 per cent) of the committees operating prior to the effective date of the long range plan had two or less agencies represented. Although these figures are revealing, they only approached statistical significance.

6, Ranking of the twenty-five selection factors.

Fifty-one of the respondents ranked each of the twenty-five site selection factors according to its importance when the site being reported was selected for future school construction. Each factor was ranked by using a limited use Likert scale rating device based on a seven point scale. Scores for each factor were calculated enabling the factors to be rank ordered from high to low.

a. Location. Site location was ranked over-all as "Most Important" in the rating scale (305 points). It was also rated in the "Most Important" category by twenty-two (43.1 per cent) of the fifty-one respondents and was rated as being "Very Important" fifteen (29.4 per cent) times.

b. Accessibility. A total of 260 points was calculated for accessibility of the site. Although two (3.9 per cent) of the respondents rated this as "Most Important," eighteen (35.3 per cent) rated it as "Very Important" and nineteen (37.3 per cent) rated it as being "Important and Could Not Be Compromised." This factor was finally rated as "Very Important."

c. Size. Site size was ranked third and was rated once (2.0 per cent) as being "Most Important." On sixteen (31.4 per cent) occasions it was rated "Very Important," and twenty-one (41.2 per cent) times it was important enough to be rated "Important and Could Not Be Compromised." Size of the site was rated over-all as being "Very Important" with a total of 257 points.

d. Educational adaptability. Ranked as fourth, the projected educational adaptability of the site was considered as being the "Most Important" factor considered for site selection on eleven (21.6 per cent) occasions. It was considered to be "Very Important" six (11.8 per cent) times, "Important and Could Not Be Compromised " on twelve (23.5 per cent) occasions and "Important, but Could Be Compromised " fifteen (29.4 per cent) times. On seven (13.7 per cent) occasions it was given a lesser rating. Over-all, this factor received a value of 252 points and was rated "Very Important."

e. Utilities available. The respondents ranked the availability of utilities as fifth. Although it was considered to be "Most Important" in three (5.9 per cent) instances and "Very Important" on fourteen (27.5 per cent) occasions, it was reported twenty-one (41.2 per cent) times in the "Important and Could Not Be Compromised" category. On sixteen (31.4 per cent) occasions, this factor was also considered in a lesser category ranging from "Important, but Could Be Compromised" to "Considered, but Unimportant." This factor received a total of 243 points and was rated over-all as "Important and Could Not Be Compromised."

f. Availability. The total number of scores from the Likert scale was 237 placing availability of the site sixth in the rank order. Three (5.9 per cent) times availability of the site was considered to be the "Most Important" factor, and on twelve (23.5 per cent) occasions it was considered "Very Important" in the site selection process. Fifteen (29.4 per cent) respondents reported this factor "Important and Could Not Be Compromised." It was ranked in the lesser categories by a total of twenty-one (41.2 per cent) respondents but still received a high enough point value to be rated "Important and Could Not Be Compromised."

g. Cost of land. This factor was ranked seventh with a total score of 226. It was the first factor in the over-all ranking to be considered in every category from "Most Important" to "Least Important." It received an over-all rating of "Important and Could Not Be Compromised" even though it was ranked in this category only six (11.8 per cent) times. The number of times the cost of land was considered "Most Important" (four times or 7.8 per cent), "Very Important" (twelve times or 23.5 per cent), "Important and Could Not Be Compromised" (six times or 11.8 per cent), and "Important, but Could Be Compromised" (fifteen times or 29.4 per cent) accounted for a relatively high final rating.

h. Site development. Ranked as eighth with a total point value of 220, development of the site was considered on four (7.8 per cent) occasions as "Very Important," on nineteen (37.3 per cent) occasions as "Important and Could Not Be Compromised," and on nineteen (37.3 per cent)

other occasions as "Important, but Could Be Compromised." On nine (16.7 per cent) occasions it was considered in a lesser category, but it was never considered as "Least Important" by any of the respondents. Due to the large number of times this factor was considered in the middle and top-middle of the Likert scale, it was rated over-all as "Important and Could Not Be Compromised."

i. Public services. The respondents ranked available public services as ninth with a total of 214 points. Even though eighteen (35.3 per cent) respondents felt this factor to be "Important, but Could Be Compromised," this factor was finally rated as "Important and Could Not Be Compromised." This final rating was determined from the large number of responses elicited in the "Important and Could Not Be Compromised" category (twelve times or 23.5 per cent), the "Very Important" category (five times or 9.8 per cent), and the "Most Important" category (three times or 5.9 per cent).

j. Topography. This factor, ranked tenth with 212 points, was the first one to be rated over-all in the category "Important, but Could Be Compromised." Site topography was considered for this category in nineteen (37.3 per cent) of the fifty-one cases. Topography was also considered to be "Very Important" on four (7.8 per cent) occasions and "Important and Could Not Be Compromised" on sixteen (31.4 per cent) occasions. The remaining twelve (23.5 per cent) respondents considered this factor to be "Marginally Important" or "Considered, but Unimportant."

k. Site preparation. Finally rated as "Important, but Could Be

Compromised" preparation of the site with a point value of 205 was ranked eleventh. The majority of respondents ranked "Site Preparation" in one of three middle categories. On thirteen (25.5 per cent) occasions this factor was considered "Important and Could Not Be Compromised," while on twenty-two (43.1 per cent) occasions the respondents indicated this factor was "Important, but Could Be Compromised." Twelve (23.5 per cent) respondents indicated this factor was only "Marginally Important."

l. Acquisition. Ranked twelfth with a total value of 204 from the Likert scale rating system, site acquisition was considered in every category except "Most Important" by an almost equally distributed number of respondents. Eleven (21.6 per cent) respondents considered acquisition of a site to be "Very Important," nine (17.7 per cent) felt it to be "Important and Could Not Be Compromised," thirteen (25.5 per cent) indicated it was "Important, but Could Be Compromised," seven (13.7 per cent) considered the factor to be "Marginally Important," and nine (17.7 per cent) indicated it was "Considered, but Unimportant." Although no one indicated acquisition of a site to be the "Most Important" factor, two (3.9 per cent) felt it was "Least Important." This factor was rated over-all as "Important, but Could Be Compromised."

m. Master plan. Although master planning was ranked thirteenth (196 points) it was rated in every category by two or more respondents. On two (3.9 per cent) occasions it was considered "Most Important" while on three (5.9 per cent) occasions this same factor was considered "Least Important." Seventeen (33.3 per cent) of the respondents indicated this

factor as "Important, but Could Be Compromised" which was the rating ultimately assigned to it.

n. Flexibility. Ranked fourteenth with a point value of 193, site flexibility was not considered in either category at the extremes of the Likert scale. Its greatest frequencies for consideration fell in the categories "Important and Could Not Be Compromised" (eleven times or 21.6 per cent), "Important, but Could Be Compromised" (sixteen times or 31.4 per cent), and "Marginally Important" (eighteen times or 35.3 per cent). The over-all rating given to this factor was "Important, but Could Be Compromised."

o. Outdoor activities desired. The respondents ranked outdoor activities desired for the future school as fifteenth (192 point value) and the over-all rating was determined as "Important, but Could Be Compromised." Sixteen (31.4 per cent) and eighteen (35.3 per cent) of the respondents respectively reported this factor as being either "Important, but Could Be Compromised" or "Marginally Important." It was not considered to be "Most Important" or "Least Important" by any of the respondents.

p. Sub-surface conditions. Consideration of sub-surface conditions during the site selection process was considered by most respondents as being "Important and Could Not Be Compromised" (eleven times or 21.6 per cent), "Important, but Could Be Compromised" (fifteen times or 29.4 per cent), or "Marginally Important" (seventeen times or 33.3 per cent). Due to the large number of times this factor was

considered in these categories, it was ranked a tie for sixteenth in the rank order (186 total points) and was rated over-all as "Important, but Could Be Compromised."

q. Environment. Seventeen (33.3 per cent) of the respondents rated this factor to be "Important, but Could Be Compromised" with nine (17.7 per cent) considerations for this factor falling in each of the categories surrounding this rating. Over-all, it was ranked as a tie for sixteenth (186 total points) and rated as "Important, but Could Be Compromised."

r. Community use. Fifteen (29.4 per cent) of the respondents rated projected community use of the site "Important, but Could Be Compromised," eleven (21.6 per cent) rated it as "Marginally Important," and nine (17.7 per cent) rated this factor "Considered, but Unimportant." Three (5.9 per cent) respondents rated this factor as "Least Important." It was ranked eighteenth (183 point value) and rated over-all to be "Marginally Important."

s. Undesirable elements. Ranked nineteenth with a total point value of 182, the factor "Undesirable Elements" was considered in every category by the respondents. Two (3.9 per cent) listed it as "Most Important" and two (3.9 per cent) felt it was "Least Important" at the time the site in question was selected for purchase. Thirty-four (66.6 per cent) respondents indicated this factor was either "Important, but Could Be Compromised" or "Marginally Important." An over-all rating of "Marginally Important" was assigned to this factor.

t. Maintenance implications. The twentieth ranked factor "Maintenance Implications" (178 total point value) was considered by twenty-one (41.2 per cent) respondents to be "Important, but Could Be Compromised" and by eighteen (35.3 per cent) respondents to be "Marginally Important." The heavy concentration of ratings in the middle and lower middle portions of the rating scale placed this factor in the "Marginally Important" category.

u. Expansibility. Seventeen (33.3 per cent) of the respondents rated this twenty-first ranked factor (177 point value) as being "Considered, but Unimportant" and one (2.0 per cent) respondent indicated site expansibility as the "Least Important" factor considered when the questioned site was selected for purchase. Eleven (21.6 per cent) of the respondents indicated that "Expansibility" was considered to be "Important, but Could Be Compromised" and ten (19.6 per cent) considered it as "Marginally Important," giving this factor a final rating of "Marginally Important" due to the large number of times it was considered at the lower end of the scale.

v. Shape of site. Rated by the majority of respondents in the middle and lower portions of the rating scale, this factor was ranked twenty-second (171 point value) with an over-all rating of "Considered, but Unimportant." Thirty-four (66.6 per cent) of the respondents indicated "Shape of Site" to be either "Important, but Could Be Compromised" or "Marginally Important," while eleven (21.6 per cent) respondents rated it as "Considered, but Unimportant" or "Least Important."

w. Soil condition. None of the respondents rated the condition of the soil as "Most Important" or "Very Important" when the site was selected. The largest concentration of frequencies were found to be in the middle and lower categories. Thirty-three (64.8 per cent) of the fifty-one respondents rated it as being "Important, but Could Be Compromised" or "Marginally Important." The high concentration of frequencies in these middle and lower categories ranked "Soil Condition" twenty-third (169 point value) on the rank order listing with an over-all rating of "Considered, but Unimportant."

x. Orientation. Ranked as twenty-fourth (155 point value), orientation of the site was given an over-all rating of "Considered, but Unimportant" due to the high concentration of ratings in the "Marginally Important" (seventeen times or 33.3 per cent) and "Considered, but Unimportant" (sixteen times or 31.4 per cent) categories. Two (3.9 per cent) respondents rated this factor as being "Least Important."

y. Political implications. The factor "Political Implications" was ranked last with a total of 97 points and was rated by thirty-one (60.8 per cent) respondents as being the "Least Important" factor considered during the site selection process. It was also determined that one (2.0 per cent) respondent rated this factor as the "Most Important" consideration when a site was selected for future school use.

B. Site Development

1. The Use of Written Educational Specifications for Site Development.

Educational specifications for site development were reported to be written for twenty-four (68.6 per cent) of the thirty-five sites developed during the study. There was no significant difference reported for the number of sites purchased before or after the implementation of the Long Range Development Plan as to whether or not educational specifications were written for site development. Respondents indicated the extent educational specifications for six specific purposes were followed during the development process. These considerations are explained in the following subdivisions.

a. Instructional use of the site. Twenty-four (91.6 per cent) of the twenty-six respondents indicated that one half or more of the plan that was made for the development of instructional use of the site was followed. However, only seven (29.2 per cent) of these respondents reported that the plan for instructional usage was followed exactly as written. In one (4.2 per cent) case there was no plan developed for projected instructional use of the site.

b. Recreational and play areas. Educational specifications were written for these areas with almost all of the plan used in twenty-two (91.6 per cent) instances. All respondents reported that some type of specifications were written for the development of recreational and play areas on the sites.

c. Athletic field for varsity sports. Almost all of the plan for the development of athletic fields was followed for five (20.8 per cent) sites while the plan was followed as exactly written for five (20.8 per cent) other sites. In ten (41.7 per cent) instances a plan was not considered for this activity. These latter cases were all elementary school sites.

d. Community use of the site. For four (16.7 per cent) sites, specifications were not written to include community use of the outdoor facilities. In one (4.2 per cent) instance very little of the plan describing projected community use of the site was followed and in two (8.3 per cent) cases about half of the plan was followed. It was reported that more than half of the plan was followed for this consideration for thirteen (54.2 per cent) sites and in four (16.7 per cent) cases it was followed exactly as written.

e. Service areas and parking. Twelve (50.0 per cent) of the respondents indicated plans for service areas and parking were followed exactly as written. More than half of the plan was followed in eleven (45.8 per cent) of the remaining situations with one (4.2 per cent) site reported as not having specifications written for development of these areas.

f. Landscaping for aesthetic or functional use. Plans for landscaping were not developed as part of the educational specifications in only two (8.3 per cent) instances. Respondents indicated that less than half of the plan for this consideration was followed in two (8.3 per cent) cases, while twenty (83.3 per cent) respondents indicated that

landscaping plans for their sites were followed to a large degree as originally written.

2. Personnel and Agencies Involved in the Site Development Process

All site development committees were reported to have school board representation. As might be expected, the board was always considered as part of the decision-making committee although in eleven (31.4 per cent) cases this same group was considered as being in an advisory capacity as well. A school administrator served on this committee either in an advisory or decision-making capacity in all but one (2.9 per cent) case. An architect was included on this committee in twenty-nine (82.9 per cent) of the thirty-five cases as being in an advisory or decision-making capacity. The expertise of a curriculum specialist and a teacher were found to be used in seventeen (48.6 per cent) instances while the services of a landscape architect, engineer, and city, county, and/or regional planner were used on sixteen (45.7 per cent) committees mostly in an advisory capacity. A representative from a lay citizen or community group, the Department of Highways, the Department of Health, or the Soil Conservation District was reported on ten or less (25.7 to 28.6 per cent respectively) of the site development committees. An educational consultant, a state agency educational planner, or a representative from the Department of Forests and Waters was included on eight or less (20.0 to 22.9 per cent) committees in an advisory capacity. Other advisory members such as a representative from the local park commission, county park commission, a student, or a real

estate agent were reported to serve on four or less (2.9 to 11.4 per cent) of the committees. None of the site development committees included a local politician or a representative from the Game Commission, Fish Commission, or State Park Commission.

It was determined that seven (77,8 per cent) of the nine boards selecting sites after the Long Range Development Plan was implemented included seven or more persons or agencies on the site development committee. Twelve (46.1 per cent) of the twenty-six site development committees selected before implementation of this plan had representation of seven or more persons or agencies on the committee. Only one (11.1 per cent) of the committees appointed to develop plans for a site that was selected after implementation of the state plan had two or less representatives. In contrast, six (23.1 per cent) of the committees for sites selected before the plan was mandated had the representation of two or less persons or agencies. As in the previously described cases involving representation on site selection committees, even though figures appeared to be revealing, there were no statistically significant differences noted in the number of site development committee representatives for those sites selected before and those selected after the state mandated Long Range Development Plan.

3. Primary Sources of Funds Used to Develop School Sites

The School Building Authority was reported to be the primary source of funds for development of the school site by a majority of respondents. Except for the construction of athletic fields, at least

thirty-two (91.4 per cent) of the school sites were reported to have been developed with the bulk of monies coming from the School Building Authority. The remaining funds came from the capital outlay portion of the annual operating budget. Donations from local groups and gifts from parent-teacher groups were used in five (13.9 per cent) situations to defray expenses for the development of outdoor instruction areas and playgrounds and to landscape the sites. Similar donations and funds from the Athletic Association were used for two (5.7 per cent) sites to partially develop an athletic field and playground.

C. Site Utilization

When interpreting the data collected for this portion of the study, it must be borne in mind that all instructional and recreational activities listed in the study are not applicable to all age levels of students, hence all schools would not be expected to have the complete inventory of activities. The sections dealing with utilization of areas on a once-a-week basis should be interpreted with the consideration that all schools do not have ample acreage or facilities constructed for the complete listing of activities used in the study.

1. Instructional Activity Areas Planned and/or Developed on the Sites.

An area for physical education was the only instructional area planned and/or developed for all sites. However, in eight (22.2 per cent) instances a specific area for physical education was reported as being planned for during the site selection process but never was

developed on the site. Science and outdoor environmental areas were planned and/or developed for more than twenty-two (61.1 to 69.4 per cent) sites. An area for school club programs and an area for art was planned and/or developed on less than sixteen (36.1 to 44.4 per cent) of the sites. Vocational agriculture and other vocational instructional areas were not planned for or developed on any of the sites, and outdoor areas for the remaining eleven instructional activities were reported as being planned or developed on only nine or less (2.8 to 25.0 per cent) sites.

2. Recreational or Athletic Activity Areas Planned and/or Developed on the Sites.

All but one (97.2 per cent) of the thirty-six sites were reported to have an area for softball or kickball either planned or developed for use by school and community groups. Activity areas for baseball, soccer, basketball, field hockey, and football were planned or developed on at least twenty-nine (80.0 per cent) of the sites. Eighteen (50.0 per cent) or more of the sites had areas either planned or developed for playground activities and track and field events. Areas for activities such as volleyball, tennis, archery, bicycle riding, scout activities, badminton, day camping, golf, and skiing or sledding were planned for or developed on four (11.1 per cent) to sixteen (44.4 per cent) of the sites. Other activity areas to include handball, ice hockey, ice skating, motor bike riding, and snowmobiling were considered or developed on three (8.3 per cent) or less sites. None of the sites were reported to have an area for outdoor swimming.

The findings clearly indicate that although considerations for planning and/or developing instructional and recreational areas on the outdoor site are not overwhelming, they are revealing. There were 297 (35.8 per cent) of a possible 828 areas for recreational and athletic activities planned and/or developed on the sites, compared to 163 (25.1 per cent) of a possible 648 instructional areas developed on these same sites.

3. Utilization of Instructional Areas of the School Site by School and Community Groups on a Once-A-Week Average.

The area established for physical education was reported to be used by school and community groups by thirty-three (91.7 per cent) of the schools. Eighteen (50.0 per cent) or more of the principals reported that instructional areas for outdoor or environmental education, science, and school club programs were used on a once-a-week average. Areas for health education and driver education were reported as used on a once-a-week average by six or less (13.9 to 16.7 per cent) principals. All other instructional areas were either not used or used by less than three (8.3 per cent) schools on a once-a-week average. As might be expected, the majority of those individuals using the school's outdoor instructional areas were reported to be the students.

4. Utilization of Recreational and Athletic Areas of the School Site by School and Community Groups on a Once-A-Week Average.

Activity areas for baseball, football, and softball or kickball were reported to be used by school or community groups on a once-a-week average by thirty-two (88.9 per cent) principals. Areas established for

soccer, basketball, playground activities, field hockey, bicycle riding, and track and field events were utilized on a once-a-week average on nineteen (52.8 per cent) to twenty-six (72.2 per cent) of the school sites. In contrast, areas established for tennis, motor bike riding, volleyball, scout activities, golf, archery, badminton, handball, skiing or sledding, snowmobiling, and ice skating were reported as used on a once-a-week average by school or community groups on twelve or less (2.8 to 33.3 per cent) of the sites. The seasonal activity areas for day camping and ice hockey were not used on a once-a-week average by any respondents.

5. Hours Per Week the Outdoor Sites Were Utilized by School and Community Groups.

a. Instructional areas. The instructional areas of the sites were reported to be utilized less than six hours a week by school groups by nineteen (52.8 per cent) respondents. One (2.8 per cent) respondent indicated this area was not used by students at all, while five (13.9 per cent) reported such an area was not available for student use. These same areas were reported as used six hours or less by community groups by twelve (33.3 per cent) of the thirty-six respondents. It was also reported that this area was not used by community groups in thirteen (36.1 per cent) instances and was not available for community use in ten (27.8 per cent) cases.

b. Recreational areas. These areas were used ten or less

hours per week by student groups in eighteen (50.0 per cent) of the cases reported. One (2.8 per cent) respondent indicated this area was not used by school groups and three (8.3 per cent) respondents claimed a recreational area was not available for student use. Data submitted for community use of the recreational areas was similar to that reported for student groups. Fourteen (38.9 per cent) principals reported these areas were used by community groups ten or less hours a week. Two (5.6 per cent) indicated these areas were not used by the community and four (11.1 per cent) principals claimed a recreation area for use by community groups was not available.

c. Athletic field. Student groups utilized athletic fields eleven or more hours a week in nineteen (52.8 per cent) of the thirty-six cases reported, but these same facilities were used ten or less hours per week by twelve (33.3 per cent) of the respondents. Community use of this facility was reported as being used eleven or more hours per week by eleven (30.6 per cent) respondents. Sixteen (44.4 per cent) respondents reported that community use of this facility was limited to ten or less hours.

d. Playground. This area was reported as being used by both school and community groups more than any of the other areas. Students were reported to use the playground eleven or more hours per week in nineteen (52.8 per cent) instances and less than ten hours per week in seven (19.4 per cent) cases. The playground was used by community

groups eleven or more hours a week at eleven (30.6 per cent) schools and less than ten hours a week at fourteen (38.9 per cent) schools. Nine (25.0 per cent) sites were reported as not having such an area available for school or community groups and two (5.6 per cent) sites were reported to have a playground area that was not used by the community.

6. Provision of Lights to Illuminate Outdoor Areas.

Lights were reported as being available on all school sites for the parking area, road approaches, and/or service areas. Recreational areas and playgrounds were illuminated on ten or less (22.7 to 28.6 per cent) of the sites. Two (5.7 per cent) athletic fields were reported to have some type of artificial illumination, yet no lights were reported to be available for any of the outdoor instructional areas.

CONCLUSIONS

1. Sites were usually developed with the same grade-structured building as originally planned when the parcel of ground was selected for future use.

2. Although a greater percentage of sites selected after implementation of the Pennsylvania State Long Range Development Plan had educational specifications for future land usage written for them, similar specifications were written during the site selection process by more than one-half of all districts included in the study.

3. More master planning for projected site locations, with the

cooperation of a greater number of local and county agencies involved in the development of this plan, was evident after implementation of the state mandated Long Range Development Plan.

4. The procedure involving the determination of population patterns in the community to include other projected school sites in the forecast prior to the initiation of purchase or condemnation procedures was used by a significantly greater number of districts after the state long range plan was implemented.

5. The individuals most often serving on a school site selection committee or a school site development committee were members of the board of school directors, a school administrator, and an architect.

6. The number of various personnel and agencies serving on school site selection or site development committees did not increase significantly after the state implemented the Long Range Development Plan on July 1, 1968.

7. Certain factors used by school boards and administrators for the selection of new school sites are usually considered before others. However, with the exception of the first and last ranked factors, the slight differences between total scores for each of the twenty-five rank ordered site selection factors suggested that each factor was considered and weighted differently at the time each site was selected. The first ranked factor "Location" and the last ranked factor "Political

Implications" were the only ones rated in those respective categories with some degree of consistency.

8. Educational specifications for school site development were written for the majority of sites prior to construction of a school building. There were no significant differences reported between the sites purchased before or after the Long Range Development Plan as to whether or not educational specifications for site development were written.

9. When specifications were designed and written, they were usually followed closely for the development of athletic fields for varsity sports, landscaping, recreational areas, and service and parking areas, while the specifications for the development of instructional areas were more susceptible to change from the original plan.

10. The possible contribution of many individuals and agencies for school site selection and site development was overlooked.

11. Although the primary source of funds for school site development is the School Building Authority, monies from the capital outlay portion of the annual operating budget were used to help pay for some site development expenditures. A small amount of residual funds for the development of instructional areas, playgrounds, landscaping, and athletic fields came from other sources such as parent-teacher

groups, donations from local community sources, and the Athletic Association.

12. With the exception of an area for physical education, most outdoor instructional areas were not usually planned or developed for sites. Instructional areas for science, outdoor or environmental education, school club programs, and art were the only outdoor instructional activity areas planned or developed on one-third or more of the sites.

13. Outdoor instructional activity areas developed on the sites tended not to be planned for at the time most sites were selected.

14. A majority of sites had an outdoor recreational area planned or developed before the building opened for student occupancy for softball or kickball, baseball, soccer, basketball, field hockey, football, playground activities, and track and field events. Most other outdoor recreational activity areas were planned or developed on sites as specific needs were considered.

15. Sites had a greater number of outdoor areas for recreational and athletic activities either developed or in the planning stages compared to the number of outdoor areas planned or developed for school-related instructional activities.

16. The outdoor instructional areas for most school-related subjects except physical education, outdoor or environmental education,

science, and school club programs were not used on a once-a-week average basis by student or community groups in most situations.

17. The outdoor recreational areas established for baseball, football, softball or kickball, soccer, basketball, playground activities, field hockey, bicycle riding, and track and field events were utilized by school and community groups more often than any other outdoor areas.

18. Even though school groups were reported as using the instructional areas of the site more than community groups, neither of these groups utilized the instructional areas of the school site more than an average of six hours a week in most communities.

19. Most recreational areas established on school sites were used by school and community groups on an average of ten or less hours per week.

20. Although used on a limited basis, athletic fields and playground areas were utilized by school and community groups more hours per week than were other areas established for specific recreational or instructional activities.

21. Outdoor lights were available on all sites for the purpose of illuminating driveways and parking areas, yet lights were not available on any site to illuminate outdoor areas used for instruction.

22. The lack of lighting available for various recreational and instructional areas could have had some effect upon the number of hours the sites were used by various groups of individuals during after school hours.

RECOMMENDATIONS

On the basis of the research and findings of this study, the following recommendations are made:

1. General educational specifications for projected student and community use of a school's outdoor facilities should be written prior to the selection of a school site.

2. Master planning should be developed in cooperation with local, county, and state agencies to show among other things, projected school enrollments, present and future school sites, and present and future community recreational facilities prior to the purchase of land by a local school district.

3. The expertise of many specialized community persons, organizations, and agencies should be considered for use on the site selection and site development committees for improved school-community planning in the location, development, and utilization of school sites.

4. The twenty-five site selection factors should be evaluated independent of the ranking reported in the study and used according to their own merit which is dependent upon the specific needs of the local school district and community at the time of site purchase.

5. Specific educational specifications for the development of athletic, recreational, and instructional activities should be written, reviewed, and revised, if need be, prior to any construction on the site.

6. Resources of various community organizations, service clubs, and agencies should be investigated by local boards and school administrators as possible supplemental funding sources for the development of school sites.

7. More diversified recreational and instructional areas should be provided on school sites for school and community use both during and after school hours.

8. School administrative personnel should encourage the use of outdoor recreational and instructional areas by teachers and students during the school day and by school and community groups after school hours for more efficient utilization of the outdoor facilities.

9. Lighting for specific outdoor recreational and instructional areas should be made available to permit use of these facilities during twilight and evening hours.

10. State standardized site acreage requirements should be reviewed and adjusted upward or downward for each site purchased to reflect projected outdoor instructional and recreational areas planned for the future school.

Based upon this study, the following studies appear to be worthy of further investigation:

1. A similar study be replicated in an urban area or on a broader scale covering a larger geographical area.

2. A study be made to investigate and compare the perceptions of school administrators, board members, teachers, students, parents, community groups, and local political agencies for the selection, development, and utilization of school sites.

3. A study be made to determine the relationships between the administrative and community organizational climate and the utilization of school facilities.

4. A study be made to determine the role expectations of various individuals serving on site selection and site development committees.

5. A study be made to develop a simulation model for the selection, development, and utilization of school sites.